

CLAIMS

I/we claim:

1. A toy vehicle comprising

a tractor having a tractor body with a powered operating assembly configured to
5 at least steer the tractor from a forward facing position to an opposite rearward facing position,
and a tractor hitch assembly connected to at least one of the operating assembly and the body;

a trailer having a trailer body and a tongue extending therefrom, and a trailer
hitch assembly connected to the trailer tongue and being couplable with the tractor hitch
assembly, the tractor and trailer being configured such that the tractor can steer at least from the
10 forward facing position to the opposite rearward facing position and be longitudinally aligned
under the trailer tongue at least essentially without interference with the trailer.

2. A toy vehicle according to claim 1, wherein one of the tractor and trailer hitch
assemblies comprises:

a hitch portion having a generally spherical base member and a first connector
15 member extending from the base member; and

a housing portion connected to one of the tractor and trailer, the housing portion
having a generally spherical socket for receiving the base member and an opening through
which the first connector member extends for coupling with the other of the tractor and trailer
hitch assemblies.

3. A toy vehicle according to claim 2, wherein the base member is pivotal in the socket
about first and second mutually orthogonal axes to thereby enable pivoting movement between
the tractor and trailer about the first and second axes, and is rotatable 360° at least about a third
axis that is perpendicular to the first and second axes to thereby enable 360° rotation of the
tractor at least about the third axis.

4. A toy vehicle according to claim 2, wherein the other of the tractor and trailer hitch
assemblies comprises a second connector member with a receptacle into which the first
connector member is received.

5. A toy vehicle according to claim 4, wherein a rim is located at a free end of the first
connector member, and further wherein the second connector member has at least one resilient
30 segment with a tab that projects into the receptacle, such that insertion of the first connector

member into the second connector member causes outward deflection of the resilient segment, and thus movement of the tab from a rest position to a deflected position until the rim is free of the tab, whereupon the tab returns to the rest position to thereby releasably lock the first connector member to the second connector member.

5 6. A toy vehicle according to claim 5, and further comprising a lock ring extending around the second connector member, including the resilient segment, the lock ring being movable between an expanded position to thereby permit outward deflection of the resilient segment for separating the first and second connector members and a compressed position to thereby prevent outward deflection of the resilient segment for locking the first and second
10 connector members together.

7. A toy vehicle according to claim 4, wherein a rim is located at a free end of the first connector member, and further wherein the second connector member has a pair of oppositely disposed resilient segments, each resilient segment including a tab that projects into the receptacle, such that insertion of the first connector member into the second connector member
15 causes outward deflection of the resilient segments, and thus movement of each tab from a rest position to a deflected position until the rim is free of each tab, whereupon each tab returns to the rest position to thereby releasably lock the first connector member to the second connector member.

20 8. A toy vehicle according to claim 7, and further comprising a lock ring extending around the second connector member, including the resilient segments, the lock ring being movable between an expanded position to thereby permit outward deflection of the resilient segments for separating the first and second connector members and a compressed position to thereby prevent outward deflection of the resilient segments for locking the first and second connector members together.

25 9. A toy vehicle according to claim 1, wherein the operating assembly comprises a chassis, a first set of longitudinally spaced wheels rotatably connected to one side of the chassis, a second set longitudinally spaced wheels rotatably connected to an opposite side of the chassis, a first drive motor operably connected to the first set of wheels for simultaneously rotating the first set of wheels in at least one of the forward and reverse directions, and a second
30 drive motor operatively connected to the second set of wheels for simultaneously rotating the

second set of wheels in at least one of forward and reverse directions to thereby move the tractor in at least one of the forward and reverse directions.

10. A toy vehicle according to claim 9, wherein the operating assembly further comprises circuitry for independently operating the first and second drive motors to control turning movement of the tractor.

11. A toy vehicle according to claim 10, wherein the operating assembly further comprises circuitry for independently operating the first and second drive motors such that movement of one of the first and second sets of wheels in the forward direction and movement of the other of the first and second sets of wheels in the reverse direction causes the tractor to turn in place.

12. A toy vehicle according to claim 11 wherein the tractor hitch assembly comprises a hitch portion having a generally spherical base member and a first connector member extending from the base member, and a housing portion connected to the chassis, the housing portion having a generally spherical socket for receiving the base member and an opening through which the first connector member extends for coupling with the trailer hitch assembly, the base member being pivotal in the socket about first and second mutually orthogonal axes and rotatable 360° at least about a third axis that is perpendicular to the first and second axes; and wherein the trailer hitch assembly comprises a second connector member with a receptacle into which the first connector member is received, the first and second connector members being couplable to thereby enable pivoting movement between the tractor and trailer about the first and second axes and 360° rotation of the tractor at least about the third axis under the trailer tongue.

13. An articulated toy vehicle comprising:

a first vehicle portion having a first hitch connected thereto;

a second vehicle portion having a second hitch connected thereto;

the first hitch comprising a generally spherical base member and a first connector member extending from the base member, and a housing connected to the first vehicle portion, the housing having a generally spherical socket for receiving the base member and an opening through which the first connector member extends for coupling with the second hitch assembly.

14. An articulated toy vehicle according to claim 13, wherein the base member is pivotal in the socket about first and second mutually orthogonal axes to thereby enable pivoting movement between the first and second vehicle portions about the first and second axes, and is rotatable 360° at least about a third axis that is perpendicular to the first and second axes to thereby enable 360° rotation of one of the first and second vehicles at least about the third axis

15. An articulated toy vehicle according to claim 13, wherein the second hitch comprises a second connector member with a receptacle into which the first connector member is received.

16. An articulated toy vehicle according to claim 15, wherein a rim is located at a free end of the first connector member, and further wherein the second connector member has at least one resilient segment with a tab that projects into the receptacle, such that insertion of the first connector member into the second connector member causes outward deflection of the resilient segment, and thus movement of the tab from a rest position to a deflected position until the rim is free of the tab, whereupon the tab returns to the rest position to thereby releasably lock the first connector member to the second connector member.

17. An articulated toy vehicle according to claim 16, and further comprising a lock ring extending around the second connector member, including the resilient segment, the lock ring being movable between an expanded position to thereby permit outward deflection of the resilient segment for separating the first and second connector members and a compressed position to thereby prevent outward deflection of the resilient segment for locking the first and second connector members together.

18. An articulated toy vehicle according to claim 15, wherein a rim is located at a free end of the first connector member, and further wherein the second connector member has a pair of oppositely disposed resilient segments, each resilient segment including a tab that projects into the receptacle, such that insertion of the first connector member into the second connector member causes outward deflection of the resilient segments, and thus movement of each tab from a rest position to a deflected position until the rim is free of each tab, whereupon each tab returns to the rest position to thereby releasably lock the first connector member to the second connector member.

19. An articulated toy vehicle according to claim 18, and further comprising a lock ring extending around the second connector member, including the resilient segments, the lock ring

being movable between an expanded position to thereby permit outward deflection of the resilient segments for separating the first and second connector members and a compressed position to thereby prevent outward deflection of the resilient segments for locking the first and second connector members together.

20. An articulated toy vehicle comprising:

a first vehicle portion having a plurality of road wheels;

a second vehicle portion having a plurality of road wheels; and

an articulated coupling between the first vehicle portion and the second vehicle portion;

the first and second vehicle portions and the articulated coupling being configured and positioned such that the first vehicle portion can be rotated at least 360° around the articulated coupling and completely beneath the second vehicle portion at least essentially without interference between the first and second vehicle portions with all of the road wheels of the first and second vehicle portions supported by a level surface beneath the vehicle.

21. The articulated toy vehicle of claim 20 further comprises:

at least one motor drivingly coupled with at least one of the road wheels of one of the first and second vehicle portions; and

circuitry configured to receive wireless control signals from a remote unit and to control operation of the at least one motor to propel the vehicle.

22. The articulated toy vehicle of claim 21 wherein the one vehicle portion includes at least a second motor drivingly coupled to at least one other of the road wheels of the one vehicle portion, the at least one road wheel and the at least one other road wheel being located on opposite lateral sides of the one vehicle portion.

23. The articulated toy vehicle of claim 22 wherein the circuitry is configured to control the one motor and the second motor independently of one another.

24. The articulated toy vehicle of claim 20 wherein at least one of the first and second vehicle portions has an upper side shaped to prevent the vehicle from coming to rest on the upper side should the vehicle rollover on a level support surface.